

Figs. 10A and 10B show the nucleotide sequence and restriction sites of regions of the plasmid pAF100 (SEQ ID NOS: 45-50). --

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5' TAGGGATAACAGGGTAAT 3' (SEQ ID NO:51)  
 3' ATCCCTATTGTCCCATTA 5' (SEQ ID NO:52). --  
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## IN THE CLAIMS

Please add the following new claims:

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- (b) providing an expression vector that expresses said endonuclease in said transgenic cell;
- (c) providing a plasmid comprising a gene of interest and a DNA sequence homologous to the sequence of the chromosomal DNA, allowing homologous recombination;
- (d) transfecting said transgenic cell with said plasmid of step (c);
- (e) expressing said endonuclease from said expression vector in said cell; and
- (f) cleaving said endonuclease recognition site with said endonuclease, whereby said cleavage promotes the insertion of said gene of interest into said chromosome of said organism at a specific site by homologous recombination.

28. The method of claim 27, wherein said endonuclease recognition site has been introduced into said cells by homologous recombination.

29. The method of claim 27, wherein said endonuclease recognition site has been introduced into said cells by retroviral insertion.

30. The method of claim 27, wherein said organism is yeast.

31. The method of claim 27, wherein said organism is bacteria.

32. The method of claim 27, wherein said organism is a mammal.

33. The method of claim 27, wherein said endonuclease site is a Group I intron encoded endonuclease site.

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